ABSTRACT

A circulating switch comprises switch modules of moderate capacities interconnected by a passive rotator. Data is sent from a one switch module to another switch module either directly, traversing the rotator once, or indirectly through at least one intermediate switch module where the rotator is traversed twice. A higher capacity extended circulating switch is constructed from higher-capacity switch modules, implemented as common memory switches and having multiple ports, interconnected through a multiplicity of rotators preferably arranged in complementary groups of rotators of opposite rotation directions. A polyphase circulating switch having a low switching delay is derived from a multi-rotator circulating switch by providing programmable rotators having adjustable relative rotator-cycle phases. A low delay high-capacity switch may also be constructed from prior-art medium-capacity rotator space switches with mutually phase-shifted rotation cycles.